

SUB
BI

$\{f_{\alpha}^{(n)}\}_{\alpha \in \mathbb{N}}$ is a sequence of functions in $C_c^\infty(\mathbb{R}^n)$ such that $\|f_{\alpha}^{(n)}\|_{C_c^\infty(\mathbb{R}^n)} \leq 1$ and $\|f_{\alpha}^{(n)} - f_{\alpha}^{(m)}\|_{C_c^\infty(\mathbb{R}^n)} \leq \frac{1}{n}$ for all $n, m \in \mathbb{N}$. Then $\{f_{\alpha}^{(n)}\}_{\alpha \in \mathbb{N}}$ is a Cauchy sequence in $C_c^\infty(\mathbb{R}^n)$ and hence converges to a function $f \in C_c^\infty(\mathbb{R}^n)$.

3

3

3

SCB
BI

5. A system
d from a secondary

~~6. A com
systems broadcasting
a first stratosp
payload, said seco
first frequency.~~

1 7. A system as recited in claim 6 further comprising a
2 second stratospheric platform generating a third beam having the first
3 frequency.

1 8. A system as recited in claim 6 wherein the second beam
2 is generated from a secondary payload.

1 9. A method for operating a communications system
2 comprising the steps of:

3 generating a first beam using a first frequency directed at a
4 service area with a satellite; and

5 generating a second beam using the first frequency directed at
6 the service area from a stratospheric platform.

1 10. A method as recited in claim 9 wherein said step of
2 generating a second beam comprises the step of generating a second beam from
3 a secondary payload.

1 11. A method as recited in claim 9 wherein said satellite
2 comprises a geostationary satellite.

1 12. A method as recited in claim 9 further comprising the
2 step of generating a feeder link.

SECRET
B1

SECRET
B1